

# PATENT SPECIFICATION



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271,844.

Application Date (In United Kingdom): April 29, 1927. No. 11,476 / 27.

(Patent of Addition to No. 166,142: dated June 12, 1918.)

Complete Accepted: Nov. 17, 1927.

## COMPLETE SPECIFICATION.

### Improvements in and relating to Packing Means for Engines, Turbines and the like.

I, JULES EDMOND JOSEPH LEROY, of 17, rue de la Bienfaisance, Paris, France, of French nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

In the Specification of my parent Patent No. 166,142 there are provided packing means around an engine piston rod, comprising dished washers containing either notched discs or split packing rings.

In the Specification of my Patent No. 186,478 the notched discs comprise a circular passage for compelling the vein of gas to take a diverted path and two contiguous rings are pinned to fix their relative positions. Further, one ring is pressed against the shaft by a second concentric ring disposed so that the openings of the rings are not in line.

In the Specification of my Patent No. 193,643 the dished washers are applied against one another by a spring, the extreme washers forming spherical joints, furthermore, each packing ring is formed in halves and two packing rings are set up side by side, maintained by an outer ring and pressed against the shaft by washers or springs disposed between the outer ring in two parts and the dished washer.

The present addition has for its object improvements in packing means of the kind described and claimed in the parent patent.

It should be mentioned that it is well known to use segmental packing rings in several parts in pairs arranged to break joint.

The present invention consists in forming the dished washers of a base washer and a crown applied against the base washer. Preferably the base washer is in several

parts, two for example. This invention also consists in making the notched discs in several parts and applying them against the shaft by suitable means; preferably these discs are provided with a groove in their peripheries in which is disposed a garter spring.

By way of example, an embodiment of the present invention is shown in the annexed drawing.

Figure 1 is a section of the packing means.

Figures 2 and 3 show a face view and section of the notched discs.

Figures 4 and 5 show a face view and section of the packing rings.

The packing means illustrated in the drawing comprises a certain number of dished washers some containing notched discs, the other segmental rings.

Each dished washer is formed in two parts, a base 1 and a crown 2. The latter comprises a circular groove 3 into which fits the base 1.

These dished washers bear on the left hand side of Figure 1 against the part 4 through the intermediary of an abutment 5 and on the right hand side against the member 6 through the intermediary of a washer 7, a Belleville washer 8 or the like spring, pressing the dished washers against one another, and a base washer 9. The two parts 4 and 6, after assembly of the packing, are applied against one another and a joint 10 is interposed to prevent leakages.

The dished washer bases 1 are preferably formed of an annular disc cut across a diameter, the two lips of the base being joined by a mortise and tenon.

The notched discs 11, preferably manufactured in a single piece, bored to the diameter of the rod 12, are afterwards sawn,

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either on a diameter or into three equal parts; and a groove 13 provided in the central rib, receives a tension spring 14, exerting sufficient force to apply the parts of the disc against the rod in such a manner that contact is always assured, however the said rod may vibrate. The saw kerfs leave play and permit wear to be taken up; when after a certain period of use the play has disappeared, it is only necessary to file the cuts to renew the desired pressure.

The packing rings 15 are disposed two by two. Each of them is sawn at three points 120° apart and carries on its external diameter a groove 16 designed to receive a tension spring 17 having for its object to maintain them always in contact with the rod. To avoid the cuts in the rings from being able to come into line through rotation which is always possible and thus offer a direct passage to the gases or liquids against which the packing is provided, they are connected with one another at some point by means of a pin 18 which is placed in two holes 19 formed for this purpose in the rings.

For high pressures, or constant pressures, advantageously an outer ring is used, covering the rings 15. In this case the groove 16 for the spring 17 is formed in the outer ring.

Advantageously circular passages can be disposed on the discs or notched rings, to compel the vein of gas to pass into the dished washer as indicated in my Specification No. 186,478 above referred to.

There can also be employed end dished washers forming spherical joints, as indicated in my Specification No. 193,643 above referred to.

It should be mentioned that this packing

means can be applied not only to piston rods but to any shaft or rod making an alternating or other movement.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A packing for engines, turbines and the like constructed according to Patent No. 166,142, in which each dished washer is formed of a crown bearing on a base washer.

2. A packing according to Claim 1 in which each base washer is formed in several parts.

3. A packing according to Claim 1 in which each base washer is in two parts.

4. A packing according to Claim 1, in which each notched disc is sawn into several parts and applied against the shaft by suitable means.

5. A packing according to Claim 4 in which each notched disc is applied against the shaft by a spring.

6. A packing according to Claim 4 in which each notched disc is applied against the shaft by a garter spring disposed in a groove.

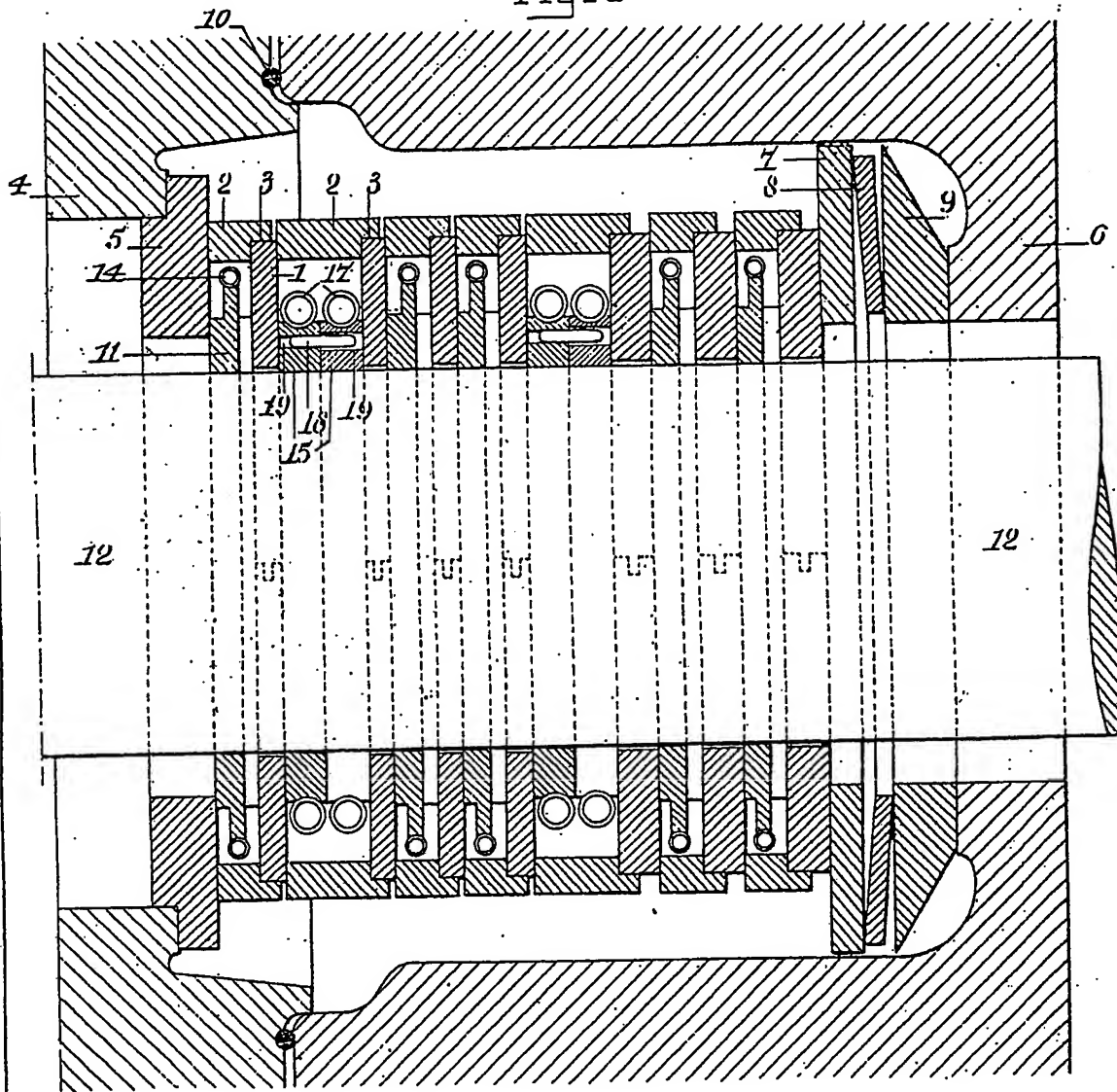
7. A packing constructed according to Patent No. 166,142, in which the dished washers and notched discs are formed in several parts, and the packing rings in three or more parts.

Dated this 29th day of April, 1927.

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Agents for the Applicant.

Fig. 1



[This Drawing is a reproduction of the Original on a reduced scale.]

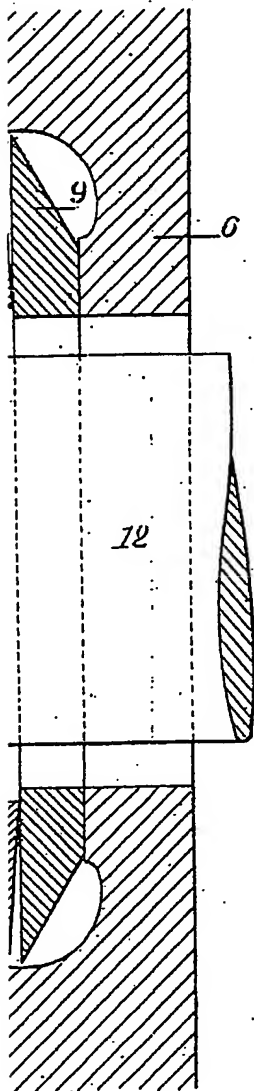


Fig. 2

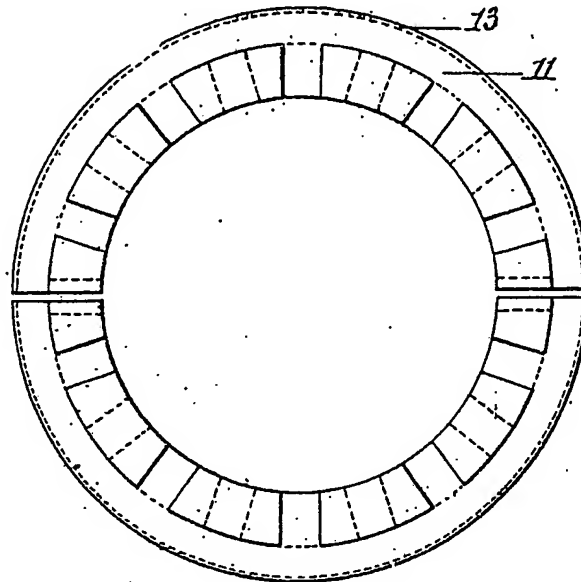


Fig. 3

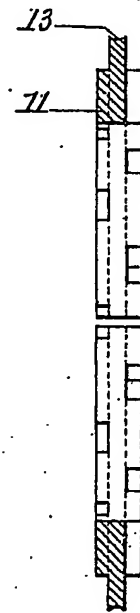


Fig. 4

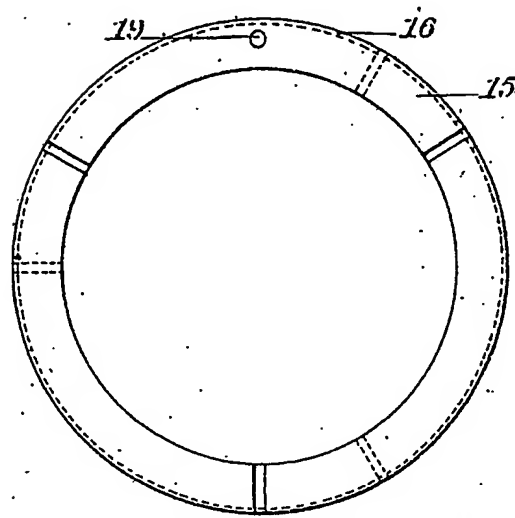
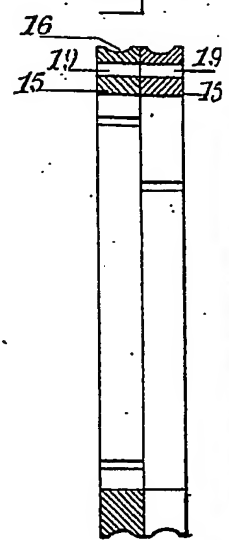


Fig. 5



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Fig-1

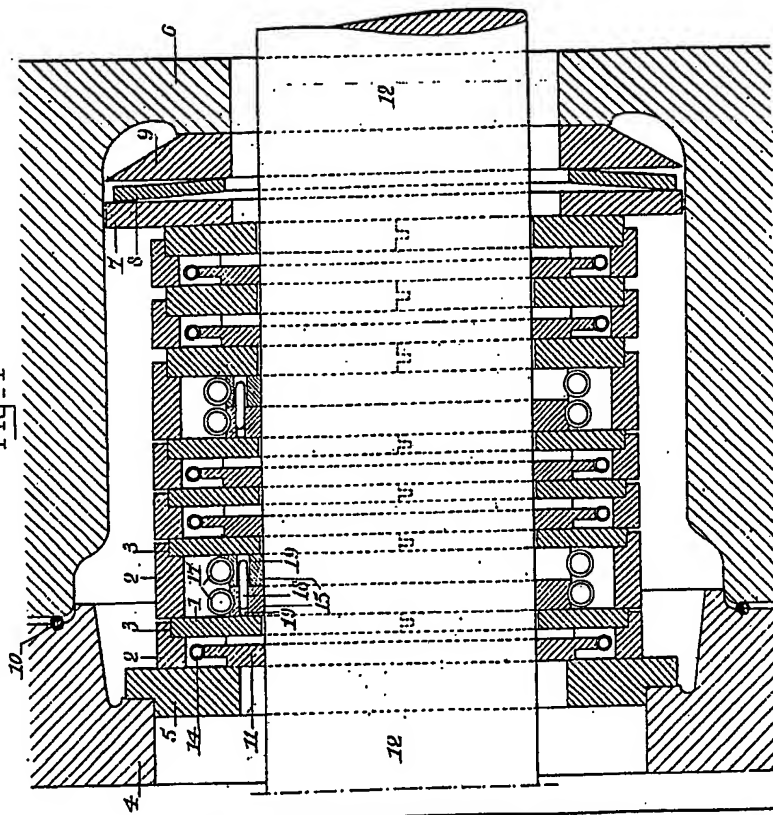


Fig-2

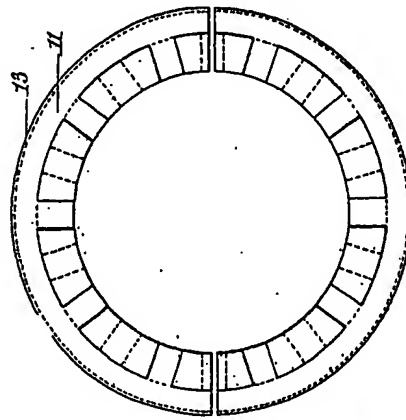


Fig-3

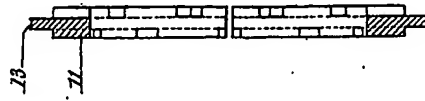


Fig-4

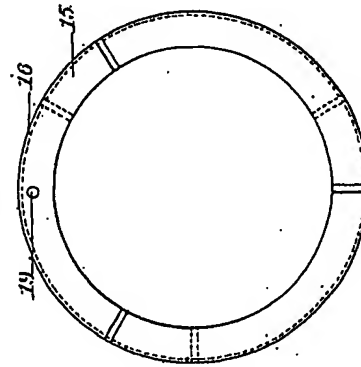
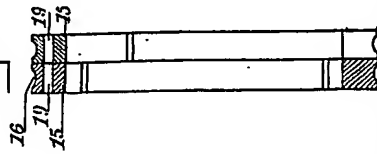


Fig-5



[This Drawing is a reproduction of the Original on a reduced scale]